

Claims

1. A communications network comprising
a plurality of transmitting stations and receiving stations for transmitting and
5 receiving signals, said transmitting stations being adapted for transmitting a
data signal as a series of data packets, wherein a data packet is scheduled to
be transmitted by use of an available transmission resource, and said
receiving stations being adapted for transmitting a reservation indicator for
reception by transmitting stations,
10 wherein a reservation indicator transmitted by a receiving station carries
- a first reservation indicator value to indicate that a data transmission
resource has been reserved by said receiving station for reception of the next
data packet of a data signal from a transmitting station transmitting said data
signal
15 or
- a second reservation indicator value to indicate that a data transmission
resource has not been reserved by said receiving station for reception of the
next data packet from said transmitting station or that the last data packet has
not been received with acceptable interference from said transmitting station,
20 and
wherein transmitting stations receiving a reservation indicator carrying a first
reservation indicator value transmitted from a receiving station to which no
data signal has been transmitted by them will not transmit a data packet by
use of the reserved transmission resource.
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2. A communications network as claimed in claim 1,
wherein each data packet is transmitted in a fixed data time slot within a time
frame,
wherein indicator time slots are assigned to said data time slots, and
30 wherein a reservation indicator transmitted in an indicator time slot indicates if
the associated data time slot has been reserved in the subsequent time frame
for transmission of the next data packet by said transmitting station.

3. A communications network as claimed in claim 1,
wherein said data packets are transmitted in a fixed data sub-carrier,
wherein an indicator sub-carrier is assigned to said data sub-carrier, and
wherein a reservation indicator transmitted in an indicator sub-carrier indicates
5 if the associated data sub-carrier is reserved for transmission of the next data
packet by said transmitting station.
4. A communications network as claimed in anyone of the preceding
claims,
10 wherein said first reservation indicator value is represented by transmitting a
reservation indicator and wherein said second reservation indicator value is
represented by transmitting no reservation indicator.
5. A communications network as claimed in anyone of the preceding
15 claims,
wherein a data transmission resource for the transmission of data packets of a
signal is selected based on said reservation indicator.
6. A communications network as claimed in anyone of the preceding
20 claims,
wherein a transmitting station stops the transmission of data packets in the
reserved data transmission resource upon receipt of a reservation indicator
from the receiving station to which the transmission station transmits data
packets, if said received reservation indicator carries a reservation indication
25 value indicating that a data transmission resource has not been reserved by
said receiving station for reception of the next data packet from said
transmitting station and/or that the last data packet has not been received with
acceptable interference from said transmitting station.
- 30 7. A communications network as claimed in anyone of the preceding
claims,
wherein a transmitting station transmits a continue indicator along with a data
packet indicating if at least one further data packet shall be transmitted to the
receiving station in the same data transmission resource.

8. A communications network as claimed in claim 7,

wherein the receiving station, to which the transmitting station transmits a signal, transmits a reservation indicator value indicating that the data transmission resource has been reserved for reception of at least one further
5 data packet if said continue indicator indicates that at least one further data packet shall be transmitted in the same data transmission resource.

9. A communications network as claimed in anyone of the preceding claims,

10 wherein the transmission of a signal from a transmitting station to a receiving station is controlled based on received reservation indicators such that the data packets of the signal are transmitted in data transmission resources that are not reserved by said receiving station or other receiving stations for use by other transmitting stations.

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10. A communications network as claimed in anyone of the preceding claims,

wherein said data transmission resource is a data time slot, a data sub-carrier, a data carrier and/or a data code.

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11. A communications network as claimed in anyone of the preceding claims,

wherein said network is a cellular communications network, an ad-hoc communications network or a hybrid cellular/ad-hoc communications network.

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12. A communications network as claimed in anyone of the preceding claims,

wherein said transmitting stations are adapted for checking if a received reservation indicator is a valid reservation indicator.

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13. A communications network as claimed in claim 12,

wherein said transmitting stations are adapted for checking the validity of a received reservation indicator by determining the actual path gain for said received reservation indicator and by comparing it to the expected path gain.

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14. A communications network as claimed in claim 13,
wherein said transmitting stations are adapted for judging a received
reservation indicator as invalid if the actual path gain is substantially different
from the expected path gain, in particular if the percentage error between the
5 actual path gain and the expected path gain is larger than a predetermined
threshold, in particular larger than 5%.

15. A method of communicating in a communications network comprising a
plurality of transmitting stations and receiving stations for transmitting and
10 receiving signals comprising the steps of:

transmitting a data signal as a series of data packets by said transmitting
stations, wherein a data packet is scheduled to be transmitted by use of an
available transmission resource, and

transmitting a reservation indicator for reception by transmitting stations by
15 said receiving stations,

wherein said reservation indicator carries

- a first reservation indicator value to indicate that a data transmission
resource has been reserved by a receiving station for reception of the next
data packet of a data signal from a transmitting station transmitting said data
20 signal or

- a second reservation indicator value to indicate that a data transmission
resource has not been reserved by said receiving station for reception of the
next data packet from said transmitting station or that the last data packet has
not been received with acceptable interference from said transmitting station,

25 and

wherein transmitting stations receiving a reservation indicator carrying a first
reservation indicator value transmitted from a receiving station to which no
data signal has been transmitted by them will not transmit a data packet by
use of the reserved transmission resource.

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16. A receiving station for use in a communications network comprising a
plurality of transmitting stations and receiving stations for transmitting and
receiving signals, comprising:

receiving means for receiving a series of data packets of a data signal from a transmitting station, wherein a data packet is scheduled to be transmitted by use of an available transmission resource, and

transmitting means for transmitting a reservation indicator for reception by
5 transmitting stations,

wherein said reservation indicator carries

- a first reservation indicator value to indicate that a data transmission resource has been reserved by said receiving station for reception of the next data packet of a data signal from a transmitting station transmitting said data
10 signal

or

- a second reservation indicator value to indicate that a data transmission resource has not been reserved by said receiving station for reception of the next data packet from said transmitting station or that the last data packet has
15 not been received with acceptable interference from said transmitting station,
and

wherein transmitting stations receiving a reservation indicator carrying a first reservation indicator value transmitted from said receiving station to which no data signal has been transmitted by them will not transmit a data packet by
20 use of the reserved transmission resource.

17. A transmitting station for use in a communications network comprising a plurality of transmitting stations and receiving stations for transmitting and receiving signals, comprising:

25 transmitting means for transmitting a series of data packets of a data signal to a receiving station, wherein a data packet is scheduled to be transmitted by use of an available transmission resource,

receiving means for receiving a reservation indicator transmitted from said receiving station,

30 wherein said reservation indicator carries

- a first reservation indicator value to indicate that a data transmission resource has been reserved by said receiving station for reception of the next data packet of a data signal from said transmitting station transmitting said data signal

35 or

- a second reservation indicator value to indicate that a data transmission resource has not been reserved by said receiving station for reception of the next data packet from said transmitting station or that the last data packet has not been received with acceptable interference from said transmitting station,
- 5 and
- a control means for controlling the transmitting means such that upon receipt of a reservation indicator carrying a first reservation indicator value transmitted from a receiving station to which no data signal has been transmitted by said transmitting station a data packet will not be transmitted by use of the
- 10 reserved transmission resource.